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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/635,486

08/07/2003

Tomoyuki Ohzeki

FSF-031421

1098

37398

7590

03/20/2007

TAIYO CORPORATION

401 HOLLAND LANE

#407

ALEXANDRIA, VA 22314

EXAMINER

CHEA, THORL

ART UNIT

PAPER NUMBER

1752

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

03/20/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/635,486	OHZEKI, TOMOYUKI	
	<b>Examiner</b>	<b>Art Unit</b>	
	Thorl Chea	1752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 February 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 2-6 and 8-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-6, 8-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on February 20, 2007 has been entered.
2. Claims 2-6, 8-11, 13-17, 19-21 are pending; claims 1, 7, 12, 18 have been canceled.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 21 is rejected under 35 U.S.C. 103(a) as obvious over Toya et al (US Patent No. 5,998,127). See silver iodide and silver iodobromide having silver iodide from 0.1 to 40 mole % in column 3, lines 46-55; silver halide grains having grain size from 10 nm to 120 nm in column 3, lines 15-20; the amount for silver halide of 0.01 to 0.5 mol per mol of organic silver salt, the method of preparing an organic silver salt by adding already prepared photosensitive silver halide at any time during the preparation of an organic silver salt in column 5, lines 34-36 and 44-46; and the bisphenols compound such as 1,1-bis(2-hydroxy-3,5-dimethylphenyl) 3,5,5-trimethylhexane in column 19, line 10. The silver iodide, the silver bromide having 40 mole % iodide, the silver halide of grain size of 10 nm to 120 nm and the amount of 0.5 mole/mole of organic silver salt overlap the silver halide, the size and the amount thereof claimed in the

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present invention. Toya et al may not exemplify the use of silver iodide but suggest the use thereof as photocatalyst for silver salt of an organic acid, and it would have been obvious to use the silver iodide suggested therein with an expectation of success.

5. Claims 21, 2-6, 19-20 are rejected under 35 U.S.C. 103(a) as obvious over Kawahara et al (US Patent No. 6,436,626) in view of Toya et al (US Patent No. 5,998,127).

See Kawahara et al in column 14-20 which discloses the preformed silver halide emulsion, preparation of sodium salt of fatty acid solution; preparation of dispersion of silver halide and organic silver salt by adding the sodium salt of fatty acid and preformed silver halide emulsion and then added silver nitrate to form "dispersion of silver halide and organic silver salt". The sodium salt of fatty acid in column 14, lines 55-67 contains 60 % of sodium salt of behenic acid. See also silver halide includes silver chloride, silver chlorobromiodide, silver chloriodobromide, silver bromide, silver iodobromide or silver iodide column 5, lines 39-41; the average size of silver halide grain preferably between 0.02 micron to 0.08 micron (20 nm - 80 nm); and the bisphenols compound such as 1,1-bis(2-hydroxy-3,5-dimethylphenyl) 3,5,5-trimethylhexane in column 19, lines 35-36. Toya et al discloses the amount of silver halide the amount for silver halide of 0.01 to 0.5 mol per mol of organic silver salt in column 5, lines 34-45. Kawahara et al may not specifically disclose the coating amount of silver halide is from 0.5 to 15 mole % per 1 mole of the organic silver salt, i.e., 0.005 to 0.15 mole/mole of silver salt of an organic silver salt; but this range has been used in Toya et al. Therefore, it would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use the amount of silver halide within the known range taught in Toya et al as photocatalyst for the material of Kawahara et al, and thereby provide a material as claimed.

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6. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara et al (US Patent No. 6,436,626) as applied to claims 21, 2-6, 19-20 above, and further in view of either Uytterhoeven et al (US 6,143,488), Siga et al (US 4,332,889), Ohzeki et al (US Patent No. 2003/0194659), Fukui et al (US Patent No. 2003/0207216), or Yoshioka (US Patent No. 2003/0235794). Uytterhoeven et al discloses a use of silver halide having iodide content at least 80 mole % of silver halide to provide post stability of the photothermographic material. Siga disclose in column 6, lines 43-68 disclose the relative amount of the silver iodide with respect to silver bromide to satisfy the sensitivity condition and storage condition. It is disclosed that "from the view point of sensitivity of image forming material, the silver halide is desired to contains, beside silver iodide, at least 2 mole %, based on silver halide component, silver bromide and/or silver chloride, although the silver halide may include only silver iodide, i.e. 100 mole % of silver iodide. Furthermore, from view point of stability of the raw image forming material, it is desired that silver halide component contains, besides silver iodide, silver bromide than silver chloride. Therefore, the most preferred silver halide component consists of silver iodide and silver bromide. In this case, silver iodide and silver bromide may be provided in either a mixture thereof or mixed crystals thereof. The molar ratio of silver iodide to silver bromide may be preferably 30/70 to 98/2, more preferably 50/50 to 95/5." . The use of silver halide having iodide content from 40 mole % to 100 mole % have been known Ohzeki et al (US Patent No. 2003/0194659), Fukui et al (US Patent No. 2003/0207216), or Yoshioka (US Patent No. 2003/0235794) in the abstract. Therefore, it would have been obvious to the worker of ordinary skill in the art at the time the invention was made to provide a select silver halide containing silver content taught in either Uytterhoeven et al, Siga et al, Ohzeki et al, Fukui et al or

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Yoshioka accordingly the desired results such as post-image stability or the sensitivity of the image, and thereby provide a material as claimed.

7. Claims 3-6, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara et al (US Patent No. 6,436,626) as applied to claims 21, 2-6, 19-20 above, and further in view of either Ikenoue et al (US Patent No. 4, 152,160) or Tsuzuki (US Patent 5,677,121). Ikenoue et al discloses the use of silver behenate of 50 mol % or more to provide a thermally developable material with an improvement of freshness retention property without causing any adverse increase in both light discoloration and dark discoloration. Tsuzuki discloses a use of silver salt of an organic acid containing silver behenic from 35 to 90 mole % to provide heat-developable material with excellent storability. It would have been obvious to the worker of ordinary skill in the art to use the silver behenate within having percentage within the scope taught in either Ikenoue et al or Tsuzuki in the material of Kawahara et al (US Patent No. 6,436,626) for same reason therein and thereby provide a material as claimed.

8. Claims 10-11, 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara et al (US Patent No. 6,436,626) as applied to claims 21, 2-6, 19-20 above, and further in view of Arai et al (US Patent No. 6,090,538). Arai discloses the polyhalogenate compound as antifoggant in columns 43-44; the phosphoryl compound in column 10, lines 15-35; the hydrazine compound in columns 9-29; the phenol reducing agent in column 2, compound (A); the binder such as poly(vinyl butyral) in column 42, lines 1-14. It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use known additives for photothermographic material taught in Arai et al in the material of Kawahara et al (US Patent No. 6,436,626) with a reasonable expectation of achieving of

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improving the fogging property and photographic speed, and thereby provide an invention as claimed.

9. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawahara et al (US Patent No. 6,436,626) as applied to claims 21, 2-6, 19-20 above, and further in view of either Goto et al (US Patent No. 6,787,298) or Farid et al (US Patent No. 5,747,235). See compound of Goto et al in columns 2-4, and Farid in the abstract and columns 16-18. The compound having property as claimed and useful as sensitizer for silver halide emulsion. It would have been obvious to the worker of ordinary skill in the art at the time the invention was made to use the sensitizer taught in Goto et al or Farid et al for same reason, and thereby provide a material as claimed.

#### *Response to Arguments*

10. Applicant's arguments filed February 20, 2007 have been fully considered but they are not persuasive for the reason set forth in the rejection above. Toya et al may not exemplified the use of the silver iodide, but suggest the use thereof such as shown in the rejection above. Moreover, it has been known in the art to balance the sensitivity and the storability of the photothermographic material such as taught in Siga et al. The applicants argue that Toya et al discloses "organic silver salt and silver halide are prepared separately and admixed thereafter" in the specific example. The argument is not persuasive since such process may not be exemplified, but it has been known in the art and disclosed in Toya et al in column 5, lines 44-45.

The Declaration under 37 CFR 1.132 submitted on July 21, 2006 fails to overcome the prima facie case of obviousness rejection set forth above. First, the Declaration fails to state whether

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the Declarant is the one of ordinary skill in the art, and state as he is the one of ordinary skill the art, he found the results unexpected or surprising. Second, the results shown in the Declaration is made according to the sample 12 of Kawahara et al which discloses the use of a preferred combination of silver behenate, silver arachidate and/or silver stearate with a preferred grain size 0.89 micron. See Table 1 in column 21, and column 4, lines 22-45. The samples 12 of Kawahara et al contains at least 44 % of silver behenate. The scope of the claims encompasses the scope of silver salt of an organic acid beyond that preferred in the applied prior art. The Declaration fails to show that that the silver salt of an organic acid made in the presence of silver halide produce a photothermographic material with an unexpected results regardless the composition of the silver salt of an organic acid or the its grain's size. Accordingly, the invention as claimed is still prima facie obvious over the applied prior art of record.

### *Conclusion*

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thorl Chea whose telephone number is (571) 272-1328. The examiner can normally be reached on 9 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571)272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR



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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tch *th*  
March 15, 2007

*Thorl Chea*  
Thorl Chea  
Primary Examiner  
Art Unit 1752